## APPENDIX C. LOCAL GUIDANCE AND ORDINANCES

DHS polled local environmental health departments about the status of their recreational water programs. The following summarizes the responses DHS received, as of May 1997, for counties that utilize specific numeric levels for monitoring and corrective action. Those who are interested in the current status of local programs should contact the local environmental health programs directly.

### C.1 OCEAN BEACHES

[Certain beaches are subject to monitoring and posting requirements from April 1 through October 31of each year. The statutory and regulatory requirements are in **Appendix A**.]

### C.1.1 Los Angeles County

Los Angeles County has a comprehensive ocean water contact sports area regulatory program. LA County's policy directs the health officer to close a affected portions of a beach and post "Beach Closed" signs "when there is a known incident of sewage pollution or chemical contamination, and … a health risk exists to persons engaging in water contact activities."

Beaches that are affected by sewage shall be closed for a minimum of 48 hours. Guidelines for closure, in terms of gallons of sewage spilled or discharged, are:

| | |
|---|---|
| Less than 1,000 gallons | = 1/4 mile each side of discharge |
| 1,000 - 10,000 gallons | = 1/2 mile each side of discharge |
| 10,000 - 100,000 gallons | = 1 mile each side of discharge |
| 100,000 - 1 million gallons | = 3 miles each side of discharge |
| 1 million - 2 million gallons | = 5 miles each side of discharge |
| More than 2 million gallons | = 10 miles or more on each side of discharge |

Subsequent sampling will be done at locations to be determined on the basis of the reported volume of the spill, prevailing winds and currents, location of the discharge, and extent of the closure. The Protocol includes sampling points in relation to the size of the sewage spill (e.g., a spill less than 1,000 gallons would be sampled at three locations: at the spill and 1/4 mile on either side of the spill ). Beaches will be reopened when data from bacteriological analyses indicate bacteria counts are within acceptable health levels.

The following bacterial standards are used in the LA County protocol:

1. California total coliform standard (Title 17, California Code of Regulations, Section 7958): No single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 cfu per 100 ml., nor shall more than 20 percent of the samples within a 30-day period at any sampling station exceed 1,000 cfu per 100 ml.

2. US EPA recommendation for enterococcus: No single sample shall exceed 104 colony forming units (cfu) per 100 ml., nor shall the log mean of five or more samples taken over a 30-day period exceed 35 cfu per 100 ml.

3. Santa Monica Bay Epidemiology Study: No single sample with a total coliform level that exceed 5,000 cfu per 100 ml shall have a total coliform to fecal coliform ratio of 5 or less. (See Haile *et al*., 1996).

Bacterial levels are considered to be elevated when two consecutive samples reveal the following:

1. Total coliform exceeds 10,000 cfu per 100 ml.

2. Enterococcus exceeds 104 cfu per 100 ml. in combination with total coliform that exceeds 1,000 cfu per 100 ml.

3. Total coliform exceeds 5,000 cfu per 100 ml. in combination with total coliform to fecal coliform ratio of 5 or less.

An evaluation is to be conducted to determine the cause that includes, but is not limited to, an evaluation of the bacteriological data, an on-site field investigations and consultation with monitoring personnel.

LA County also has a public notification process that issues public advisories to wire services whenever a significant beach area is closed to the public. Public advisories are also issued when significant rain storm is predicted or occurs, explaining that storm drain flows may cause elevated bacterial counts for approximately 72 hours and ocean water contact, especially in areas adjacent to storm drain flows, should be avoided.

### C.1.2 Mendocino County

Mendocino County reopens beaches following sewage spills when total coliforms are less than 1000 per 100 ml, fecal coliforms are less than 200 per 100 ml, and enterococci are less than 35 per 100 ml.

### C.1.3 Orange County

Orange County samples from many regular sampling stations, samples are taken from water ankle-deep in the surf zone, waist-deep or deeper in harbors. Samples are taken 6-12 inches below the water surface. The county issues beach advisory press releases after 0.2 inches of rain, and posts warning signs at creek or drain mouths due to fluctuating coliform values. It closes beaches after sewage spills or when total 20

percent of coliforms exceed 1000 per 100 ml., and reopens beaches when two consecutive sampling days show levels "well below" 1000 total coliforms per 100 ml.

### C.1.4 Monterey County

Monterey County posts warnings on ocean beaches when fecal coliforms meet or exceed 200 per 100 ml., or total coliforms meet or exceed 1000 per 100 ml. Beaches are closed when the standard is exceeded, with visual presence of chemicals or human waste.

### C.1.5 San Diego County

San Diego County samples approximately monthly, for total and fecal coliforms. Levels for posting warnings, beach closure, and reopening beaches are 1000 total coliforms and 200 fecal coliforms per 100 ml.

### C.1.6 San Francisco

San Francisco samples regularly from shoreline sampling stations at high use areas, and areas adjacent to outfalls. Analyzes for total and fecal coliforms, enterococci, and *E. coli*. Follows 17 CCR §7958 for posting, closure and reopening beaches.

### C.1.7 San Luis Obispo County

San Luis Obispo County samples as needed, generally during the rainy season, during heavy rainfall periods. Sampling is also done if a major sewage spill occurs in the watershed supplying stream sources that reach the ocean beach areas. . Analyzes for total and *E. coli*. Follows 17 CCR §7957 for posting, closure and reopening beaches.

### C.1.8 San Mateo County

San Mateo samples year round along coastal area under the influence of water water treatment plants. Beaches are closed when total coliforms exceed 1000 per 100 ml, or when fecal coliforms exceed 200 per 100 ml.

### C.1.9 Santa Cruz County

Santa Cruz County samples one/week or one/month, according to location, some stations all year, some May-September. The county has one regular sampling station per beach, and samples water at ankle depth. Analysis is for fecal coliforms, and there is also extensive parallel testing of total, enterococci, E. coli and fecal streptococcus. Warnings are issued when two consecutive samples of fecal coliforms are over 200 MPN per 100 ml. Beach closure occurs with a significant raw sewage spill. Reopening occurs when samples return to 200 MPN per 100 ml for fecal coliforms.

## C.2 INLAND SALT WATER BEACHES (Salton Sea)

### C.2.1 Imperial County

Imperial County samples monthly, two samples per beach, from regular sampling stations, taken from waist-deep water.. Sampling is from areas most frequented by people, or from sampling grids. Analyzes for total and fecal coliforms. For posting warnings, the county uses regional water board criteria, coupled with evidence of source of human pollution. It has no guidance for closure/reopening. Uses board authority of health officer to post warnings, in the absence of inland water standards.

**C.2.2 Riverside County**

Riverside County samples weekly, about four samples per beach, from regular sampling stations, chosen because they represent heavy use areas. Samples are taken from 6 inches below water surface, and analyzed for total and fecal coliforms. Levels for posting warnings and closing beaches are 200 fecal coliforms per 100 ml two weeks in a row. Beaches are reopened with samples lower than 200 per 100 ml.

## C.3 FRESH WATER BEACHES

### C.1 Kern County

Kern County samples its lakes and reservoirs twice per month, from May through August, three samples per beach/recreational area, from regular sampling stations. Samples are analyzed for total and fecal coliforms. Posting warnings, beach closure, and reopening beaches are based on a total coliform level of 1000 per 100 ml.

### C.2 Los Angeles County

For freshwater recreational areas, Los Angeles County's Code uses the following:

(1) Total coliform: No single sample shall exceed 10,000 cfu per 100 ml. Not more than 10 percent of the samples tested shall exceed 1,000 cfu per 100 ml. Of all samples collected over a 30 day period, the mean shall not exceed 500 cfu per 100 ml.

(2) Total coliform/fecal coliform ratio: No single sample with a total coliform level of 5,000 cfu per 100 ml. or greater shall have a total coliform/fecal coliform ratio of 5 or less.

(3) Enterococci: No single sample shall exceed 61 cfu per 100 ml. A minimum of 5 samples equally spaced over a 30-day period shall not exceed a log mean of 33 cfu per 100 ml.

### C.3 Riverside County

Riverside County samples weekly, about four samples per beach, from regular sampling stations, chosen because they represent heavy use areas. Samples are taken from 6 inches below water surface, and analyzed for total and fecal coliforms. Levels for posting warnings and closing beaches are 200 fecal coliforms per 100 ml two weeks in a row. Beaches are reopened with samples lower than 200 per 100 ml.

## C.4 San Bernardino County

Santa Bernardino County has an ordinance that applies to all water contact recreation resorts (WCRR), where the definition of an WCRR includes all public water contact recreation facilities for which direct or indirect fee is charged for the use of the facility. WCRRs include water theme parks, swim or wave lagoons, natural and man-made lakes and water courses, and similar public water contact recreational places (Ordinance No. 3020). Microbiological quality, which is regulated by the county Department of Environmental Health Services (DEHS) is addressed in section 31.054(b). The regulation calls for routine sampling and analysis at a frequency, and from representative locations, as determined by the DEHS. The fecal coliform density from any consecutive sets of samples collected within any thirty (30) days shall not exceed an arithmetic mean of two hundred (200) organisms per one hundred (100) ml. When fecal coliform density of any sample collected exceeds one thousand (1,000) per one hundred ml, the DEHS shall order the closure of the water contact area and follow-up daily sampling shall be immediately commenced with waters analyzed for fecal coliform for at least two (2) consecutive days. If any follow-up daily sample exceeds one thousand (1,000) per one hundred (100) ml., the water contact area shall remain closed, and with the appropriate signs posted and maintained by the owner/operator, and shall not reopen without prior written approval being obtained from the DEHS. The DEHS may also direct sampling for specific pathogens. WCRRs that utilize an approved filtration and disinfection system may, upon approval by the DEHS, maintain a daily log of disinfectant and pH test reading in lieu of microbiological sampling. Fecal coliform sampling shall be conducted prior to the commencement of each season's use and as requested by the DEHS. Routine water samples shall be obtained from representative portions of the swim area at a depth of two (2) feet.

## C.5 San Joaquin County

San Joaquin County samples its lakes/reservoirs and rivers once per week May through September, one sample per beach from regular sampling stations. Samples are taken from waist-deep water, and analyzed for total and fecal coliforms. Levels for beach closure: one sample exceeding 400 fecal coliform/ per 100 ml or five consecutive samples taken within a 30-day period exceeding a mean of 200 fecal coliforms per 100 ml.

## C.6 Santa Cruz County

Santa Cruz County's county ordinance (Ord 1472, 11/25/69) establishes Section 7.72.0030 as the bacteriological standard for freshwater contact sports areas: Samples of water from each sampling station at such a freshwater contact sports area shall have a count of fecal coliform organisms less than 200 organisms per 100 milliliters, provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 200 per 100 milliliters.

## C.7 Solano County

Solano County samples as needed for complaints during May-September, and routinely analyses for shistosoma complaints only.

### C.8 Tuolomne County

Tuolomne County's lakes/reservoirs, rivers, and artificial impoundments are sampled on a volunteer basis, at about 10 organized beaches. Sampling is once per month, one to three samples per beach from regular sampling stations, April through September. Samples are taken six inches deep one foot away from structures/shore, and analyzed for total and fecal coliforms. Warnings and closures occur in response to sewage spills. Beaches are reopened when fecal and total coliforms are back to background levels. The county uses an advisory level for discontinuing water contact of 1200 MPN fecal coliforms per 100 ml., in the absence of sewage contamination.

### C.9 Yolo County

Yolo County's rivers and creeks are sampled only when there is a complaint or when an incident of pollution occurs. For warning and closure, the county uses a standard of not to exceed a daily average of 2400 coliforms per 100 ml. Repeated testing at least on two consecutive days is required to establish a warning/closure action, and the same procedure is required for removal of such order.

*Initial draft: November 1997*

REFERENCES

See http://www.dhs.ca.gov/ps/ddwem/beaches/pdfs/references.pdf